

Successful “knockout” of DNA sequences is also evaluated using PCR or other techniques known in the art.

If the sperm DNA tests positive for the gene of interest, transgenic animals are produced by breeding the pig to sows in heat, using the sperm for artificial insemination, or doing *in vitro* fertilization with the sperm. The recipient females are allowed to farrow and the progeny tested for the presence of the transgene (or knockout) with DNA isolated from ear tissue or blood by the polymerase chain reaction.

Other embodiments are within the following claims. What is claimed is:

1. A method of delivering a DNA to a spermatogonium, comprising infusing *in situ* DNA into a testicle of a non-human animal and administering a condition or substance to said testicle to increase uptake of said DNA by said spermatogonium.

2. The method of claim 1, wherein said condition is passage of an electrical current through the testicle.

3. The method of claim 2, wherein said electrical current is applied to said testicle using a defibrillator.

4. The method of claim 2, wherein said electrical current is applied to said testicle using an electroject.

5. The method of claim 1, wherein said substance is a lipid or a phospholipid.

6. The method of claim 1, wherein said DNA is infused in a volume of at least 0.1 ml per testicle.

7. The method of claim 1, wherein the epididymis is surgically exposed at the head and the DNA is delivered to the testes via a retrograde flush through the rete testes into the seminiferous tubules.

8. The method of claim 1, wherein said DNA is introduced into said spermatogonium by viral infection.

9. The method of claim 1, wherein said non-human animal is selected from the group consisting of a sheep, goat, pig, cow, chicken, rabbit, rat, mouse, and guinea pig.

10. The method of claim 9, wherein said non-human animal is a pig.

11. The method of claim 1, wherein said animal is prepubetal.

12. The method of claim 1, wherein said DNA comprises a sequence encoding a selectable marker.

13. The method of claim 12, wherein said selectable marker is selected from the group consisting of antibiotic resistance gene, a cell surface antigen, or thymidine kinase.

14. The method of claim 1, wherein DNA is administered to said testicle before the time at which sperm production is detected.

15. The method of claim 9, wherein the age of said pig is at least 30 days.

16. The method of claim 15, wherein the age of said pig is not greater than 100 days.

17. The method of claim 1, wherein said DNA is naked.

18. A method of making a non-human transgenic animal comprising infusing *in situ* DNA into a testicle of a prepubetal non-human animal, harvesting sperm cells from said animal, contacting an ovum with said sperm cells under conditions suitable for fertilization to produce said non-human transgenic animal.

19. The method of claim 18, wherein said prepubetal non-human animal is a pig.

20. The method of claim 18, wherein said pig is at least 30 days but not greater than 100 days of age.